Approved by:
Checked by:
Issued by:

SPECIFICATION

PRODUCT: SAW FILTER

MODEL: HF438904N (K3965D) SIP5D

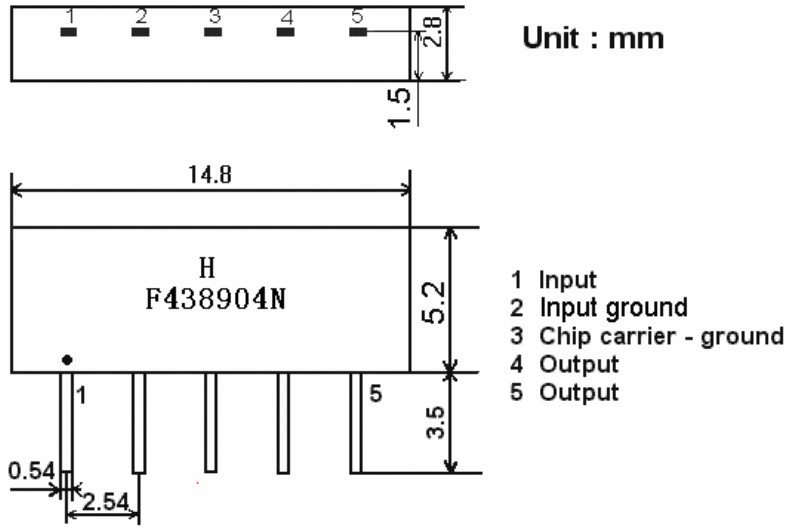
HOPE MICROELECTRONICS CO.,LIMITED

Tel:+86-755-82973806 Fax:+86-755-82973550 E-mail: sales@hoperf.com http://www.hoperf.com

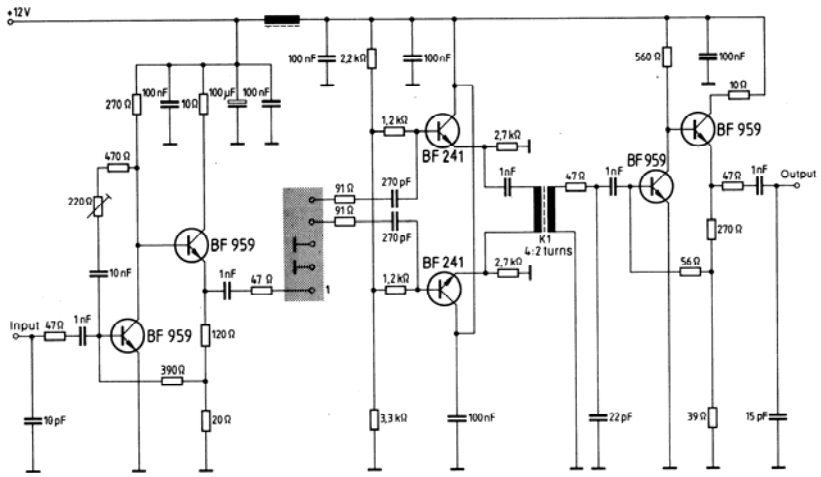
1.Construction

1.1 Dimension and materials

Type : F438904N



1.2. Circuit construction, measurement circuit



Test circuit for SIP-5 filter
Input impedance of the symmetrical post-amplifier: 2 kΩ in parallel with 3 pF

2.Characteristics

Standard atmospheric conditions

Unless otherwise specified , the standard rang of atmospheric conditions for making measurements and tests is as follows;

Ambient temperature : 15℃ to 35℃
Relative humidity : 25% to 85%
Air pressure : 86kPa to 106kPa

Operating temperature rang

Operating temperature rang is the rang of ambient temperatures in which the filter

can be operated continuously. -10℃ ~ +60℃

Storage temperature rang

Storage temperature rang is the rang of ambient temperatures at which the filter can be stored
without damage.
Conditions are as specified elsewhere in these specifications. -40℃ ~ +70℃

Reference temperature +25℃

2.1 Maximum Rating

DC voltage VDC	**12**	**V**	**Between any terminals**
AC voltage Vpp	**10**	**V**	**Between any terminals**

2.2 Electrical Characteristics

Source impedance Zs=50Ω

Load impedance Z_L=2kΩ//3pF T_A=25℃

Item		Freq	min	typ	max	
Insertion attenuation Reference level		37.45MHz	14.9	16.9	18.9	dB
Relative attenuation		38.95MHz	4.0	5.5	7.0	dB
		33.95MHz	6.1	7.3	8.5	dB
		34.52MHz	0.1	1.3	2.5	dB
		33.45MHz	17.0	19.9	-	dB
		32.95MHz	40.0	50.0	-	dB
		32.45MHz	42.0	55.0	-	dB
		30.95MHz	42.0	58.0	-	dB
		31.95MHz	42.0	52.0	-	dB
		40.20MHz	35.0	42.0	-	dB
		40.45MHz	42.0	52.0	-	dB
		41.45MHz	41.0	53.0	-	dB
Sidelobe	25.05~31.95MHz		38.0	47.0	-	dB
	40.45~45.05MHz		35.0	40.0	-	dB
Reflected wave signal suppression 1.2 us … 6.0 us after main pulse (test pulse 250 ns , carrier frequency 37.45 MHz)			40.0	50.0		dB
Feedthrough signal suppression 1.2 us … 1.1 us after main pulse (test pulse 250 ns , carrier frequency 37.45 MHz)			45.0	52.0		dB
Group delay ripple (p-p)			-	50	-	ns
Temperature coefficient of frequency			-72			Ppm/k

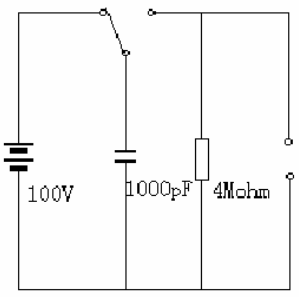
2.3 Environmental Performance Characteristics

Item Test condition	Allowable change of absolute Level at center frequency(dB)
High temperature test 70℃ 1000H	< 1.0
Low temperature test -40℃ 1000H	< 1.0
Humidity test 40℃ 90-95% 1000H	< 1.0
Thermal shock -20℃==25℃==80℃ 20 cycle 30M 10M 30M	< 1.0
Solder temperature test Sold temp.260℃ for 10 sec.	< 1.0
Soldering Immerse the pins melt solder at 260℃+5/-0℃ for 5 sec.	More then 95% of total area of the pins should be covered with solder

2.4 Mechanical Test

Item Test condition	Allowable change of absolute Level at center frequency(dB)
Vibration test 600-3300rpm amplitude 1.5mm 3 directions 2 H each	<1.0
Drop test On maple plate from 1 m high 3 times	<1.0
Lead pull test Pull with 1 kg force for 30 seconds	<1.0
Lead bend test 90^{o} bending with 500g weigh 2 times	<1.0

2.5 Voltage Discharge Test

Item Test condition	Allowable change of absolute Level at center frequency(dB)
Surge test Between any two electrode  	<1.0

2.6 Frequency response：